

**Abstract**

A technique is disclosed for assigning addresses to stations in a local area network without some of the costs and disadvantages for doing so in the prior art. In particular, the illustrative embodiment ensures that unique addresses are assigned to the stations in a local area network in such a way that the broadcasting of the address does not reveal the identity of the station. Furthermore, the illustrative embodiment of the present invention accomplishes the dynamic address generation without modification to the frame formats or low-level medium access control protocol. The present invention is particularly useful for stations that wish to associate with a local area network and request services from that network.